



NCTIP

National Center for Transportation and Industrial Productivity
New Jersey Institute of Technology

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Quarterly Progress Report

Project Title:	Economic & Quality of Life Impacts of Rt 21 Freeway Construction		
RFP Number: 2001-08	NJDOT Research Project Manager: R Sasor		
Task Order Number/Study Number: NCTIP-034	Principal Investigator: Golub, Eugene		
Period Starting: 01/01/2002 - 12/31/2006 (Start-End Date of Study)	Period Ending: 04/04/2003		

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Phase I: Literature Review	3	0	100	3
Task 1: Pre-construction, economic conditions	4	0	100	4
Task 2: Familiarization with Route 21	4	25	100	4
Task 3: Familiarization with Context Design	4	0	100	4
Task 4: Familiarization with Baseline data	4	25	100	4
Task 5: Develop study methodologies	75	5	20	15
Task 6: Prepare interim annual reports	3	90	90	2.7
Task 7: Prepare quarterly / final reports	3	6	20	0.6
Final Report				
TOTAL	100 %			37.3 %

1. Progress this quarter by task:

Phase1 The literature search is complete.

Task3 Familiarization with CSD is almost complete. Additional work includes discussion with other NJDOT personnel as to how CSD was applied on this project.

Task2 Familiarization with the Rt 21 design and Baseline Data is complete. The NJDOT data has been obtained and has been reviewed. Additional data is being developed from other local and County Sources.

Task4 The project team has completed review of NJDOT 2001 baseline data.

Task5 A photographic record of the project has been undertaken and is near completion. It includes photoscapes of the area in proximity of the project as well as photos of the areas thought to be of importance by the NJDOT. these records are compiled on CD's.

Professional staff from both communities were individually interviewed and a compilation is being developed. Further, the local merchant associations have likewise been interviewed.

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Surveys have been sent to elected officials & professional staff in both municipalities. Individual surveys are being conducted with merchants in both municipalities.

Traffic counts are being conducted at key intersections as per NJDOT original studies.

Noise readings are being taken at key locations as per original NJDOT studies.

Data is being compiled for Clifton on all sales of properties and the variation in prices as well as the total assessed valuation of the town for the last 10 years. Similar data has been requested from Passaic.

Accident data in the two towns is in the process of being developed to demonstrate changes that have occurred in the last few years.

Additional photography has been taken at important locations.

Base photographic record is being digitized for a permanent record that is easily organized.

We are obtaining sales reports from City of Passaic.

Surveys have been digitized and analyzed.

An interim annual report has been submitted in draft form. This has been finalized this quarter.

The photographic record taken during the project has been digitized and is in the process of being organized into a usable computer file.

2. Proposed activities for next quarter by task:

The second year analysis and data gathering will be continued.

The photographic record taken during the project has been digitized and is in the process of being organized into a usable computer file.

3. List of deliverables provided in this quarter by task (product date):

4. Progress on implementation and training activities:

5. Problems/proposed solutions:

6. Budget summary:

Quarterly Progress Report

Total Project Budget (# Years)	5 Year	\$293,327.00
Total Project Expenditure to date		\$83,000.00
% of Total Project Budget Expended		28.30%
Task Order Number/ Study Number	1 Year	NCTIP-034
Current Task Order Budget (# of Years)		\$55,165.00
Actual Expenditure to Date Against Current Task Order		\$14,000.00
% of Current Task Order Budget Expended		25.38%

Quarterly Progress Report

Project Title:	Good Neighbor Privacy Fence		
RFP Number:		NJDOT Research Project Manager:	R Sasor
Task Order Number/Study Number: nctip-35		Pincipal Investigator:	Golub, Eugene
Period Starting: 01/01/2002 - 09/30/2003 (Start-End Date of Study)		Period Ending:	04/04/2003

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
phase 1- Literature review	8	0	100	8
Task 1: Partner with industry	8	5	65	5.2
Task 2: Contact industry	15	0	100	15
Task 3: Design details	20	0	80	16
Task 4: Construction guidelines	20	10	50	10
Task 5: Complete guidelines	20	10	30	6
Task 6: Prepare report	4	15	60	2.4
Final Report	5	40	40	2
TOTAL	100 %			64.6 %

1. Progress this quarter by task:

Project Progress: The literature search is complete.

Detailed information has been gathered on vinyl, concrete, fiberglass, steel, aluminum, block and landscape fences.

The team is also considering the approach of providing fencing on NJDOT property by providing an easement to the adjoining neighbor to select the type of fence from an approved list and then accepting responsibility for maintenance. This would allow for the use of landscape features that require routine maintenance that is then provided by the adjoining homeowner.

An interim annual report was written this quarter. This brought all of the information gathered in a single document. The various solutions studied were discussed in detail and identified as feasible or not feasible.

2. Proposed activities for next quarter by task:

The next quarter will focus on taking current products available in the market place and modify the basic designs to increase the life span of the product and reduce routine maintenance to the smallest level possible.

The idea of placing the privacy fence on the neighboring property will be explored with the AG's office.

3. List of deliverables provided in this quarter by task (product date):

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4. Progress on implementation and training activities:

5. Problems/proposed solutions:

6. Budget summary:

Total Project Budget (# Years)	2 Year	\$101,090.00
Total Project Expenditure to date		\$65,000.00
% of Total Project Budget Expended		64.30%
Task Order Number/ Study Number	2 Year	nctip-35
Current Task Order Budget (# of Years)		\$40,000.00
Actual Expenditure to Date Against Current Task Order		\$13,000.00
% of Current Task Order Budget Expended		32.50%

Quarterly Progress Report

Project Title:	Computer Modeling and Simulation of New Jersey Signalized Highways		
RFP Number: 2001-01	NJDOT Research Project Manager: Karl Brodtman, NJDOT		
Task Order Number/Study Number: 32	Principal Investigator: Chien, Steven I-Jy		
Period Starting: 1/1/02 - 12/31/03 (Start-End Date of Study)	Period Ending: 04/04/2003		

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Review of Literature and Current Practice	4	5	100	3.8
Prototype Development	10	0	95	9.5
Site Identification and Data Collection Needs	10	0	100	10
Data Collection	15	0	100	15
Network Modeling with SYNCHRO and CORSIM	15	5	65	9.75
Optimization of Signal Timing Plan with SYNCHRO and CORSIM	20	20	50	10
Generation of Traffic Signal Directives	10	0	0	0
Development of Tutorial for the NJDOT Engineers in the SYNCHRO Environment	8	0	0	0
Final Report with Documentation of SYNCHRO Models	8	0	20	1.6
Final Report				
TOTAL	100 %			59.7 %

1. Progress this quarter by task:

1. Louis Berger Associates provided traffic volume for Route 42/322. A full package of data including manual turning movements counts and intersection sketches were provided. 2. Traffic volume data for the Route 23 Corridor was entered into Synchro computer software. NJDOT was provided with a copy of the output results to verify the accuracy of the traffic signal timing data. NJDOT has been provided with a CD of the Route 23 network output. The simulation will be field verified by NJDOT.

2. Proposed activities for next quarter by task:

1. Verify results from SYNCHRO output for Route 23. Optimize the Route 23 network and develop revised timing plans. Include recommendations for traffic signal timing and phasing enhancements. 2. Commence data input for the Route 42/322 corridor.

3. List of deliverables provided in this quarter by task (product date):

Draft Literature Review
SYNCHRO 5.0 Networks for various time periods

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4. Progress on implementation and training activities:

none yet

5. Problems/proposed solutions:

none yet

6. Budget summary:

Total Project Budget (# Years)	2 Year	\$149,585.00
Total Project Expenditure to date		\$82,300.00
% of Total Project Budget Expended		55.02%
Task Order Number/ Study Number	1 Year	32
Current Task Order Budget (# of Years)		\$149,585.00
Actual Expenditure to Date Against Current Task Order		\$82,300.00
% of Current Task Order Budget Expended		55.02%

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Project Title:	Effectiveness of Certain Design Solutions on Reducing Vehicle Speeds		
RFP Number: 37	NJDOT Research Project Manager: Karl Brodtman		
Task Order Number/Study Number: NCTIP-37	Pincipal Investigator: Daniel, Janice R.		
Period Starting: 1/1/2003 - 6/30/2004 (Start-End Date of Study)	Period Ending: 04/04/2003		

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
PHASE I - Literature Search	15	50	50	7.5
Task 1. Presentation of Findings	5	0	0	0
Task 2. Accident Analysis	20	40	40	8
Task 3. Human Factors Study	40	5	5	2
Task 4. Plan and Budget Development	10	0	0	0
Task 5. Reporting	10	5	5	0.5
Final Report				
TOTAL	100 %			18.0 %

1. Progress this quarter by task:

During the past quarter the research team has worked on completing the literature review for the project. The literature review has attempted to cover: (1) the state-of-the practice of traffic calming in the United States and abroad; (2) experience of local and state Departments of Transportation using various traffic calming measures; and (3) the legal and political concerns governing the installation of traffic calming measures on New Jersey roadways. A survey was also prepared and sent to all county Departments of Transportation, asking them to identify roadways where traffic calming may benefit in reducing speeds and to identify roadways where traffic calming measures may already be used in their jurisdiction. To date, the responses to the survey have been low, and the research team will have to follow-up with telephone calls to these agencies. Additional surveys may need to be sent to local agencies.

In addition, the research team has begun to perform an accident analysis, identifying roadways with significant pedestrian and bicycle accidents. Analyses continue to be performed to determine whether the top locations are also locations where speeding is the primary cause for these accidents and to determine whether the roadways would be appropriate for installation of traffic calming measures. Route 27 in New Brunswick, Linden and Elizabeth is currently being investigated as one location where a traffic calming measure can be implemented. Field visits have been made, and the research team is in the

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process of preparing the visual preference survey for this location.

2. Proposed activities for next quarter by task:

During the next quarter, the research team will make follow-up calls to county DOTs not responding to the initial survey on their speed setting practice. The survey will also be administered to select municipalities. The research team will continue to perform the accident analysis and to identify ten locations for a detailed field studies. The visual preference survey for Route 27 will be completed and the survey will be prepared to be administered within this quarter. Route 27 will be used to evaluate and refine the survey process.

3. List of deliverables provided in this quarter by task (product date):

4. Progress on implementation and training activities:

5. Problems/proposed solutions:

6. Budget summary:

Total Project Budget (# Years)	1 Year	\$153,232.00
Total Project Expenditure to date		\$7,858.65
% of Total Project Budget Expended		5.13%
Task Order Number/ Study Number	1 Year	NCTIP-37
Current Task Order Budget (# of Years)		\$76,822.00
Actual Expenditure to Date Against Current Task Order		\$7,858.65
% of Current Task Order Budget Expended		10.23%

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Project Title:	Study of Optimal Travel Speed Limits for Shared Traffic		
RFP Number: 2002-28	NJDOT Research Project Manager: Karl Brodman		
Task Order Number/Study Number: NCTIP-043	Pincipal Investigator: Yang, Jian		
Period Starting: 01/01/2003 - 12/31/2003 (Start-End Date of Study)	Period Ending: 04/04/2003		

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Phase I. Literature Review	10	75	75	7.5
Task 1. Review Current Speed Limit Criteria	10	50	50	5
Task 2. Compare NJ Speed Limit Criteria to Others	10	50	50	5
Task 3. Review Attributes for Low-speed Roads	10	25	25	2.5
Task 4. Assess Data	15	0	0	0
Task 5. Identify Speed Factors	25	0	0	0
Task 6. Establish Procedure for Setting Speeds	10	0	0	0
Task 7. Identify Locations for Implementation	10	0	0	0
Task 8. Final Report	10	10	10	1
Final Report				
TOTAL	100 %			21.0 %

1. Progress this quarter by task:

During this first quarter, the literature review was conducted and is nearing its completion. The review concentrates on research the following areas: (1) the correlation between vehicle travel speeds and pedestrian injury likelihood and severity; (2) benefits of reduced speed limits; (3) means that help to enforce speed limits; and (4) engineering approaches that help reduce vehicle travel speeds.

Also, work was performed on Task 1, involving reviewing the current criteria used for setting speed limits in New Jersey. The New Jersey Permanent Statutes Title 39 Motor Vehicles and Traffic Regulations that provides legislation specifying how speed limits are set within the state of New Jersey was reviewed. A survey was also prepared and sent to all county Departments of Transportation, asking about the criteria used and guidelines followed when setting speeds on their roadways. To date, the responses to the survey have been low, and the research team will have to follow-up with telephone calls to these agencies. Additional surveys may need to be sent to local agencies to determine whether these agencies follow Title 39 exclusively when setting their speed limits. In the same survey, County DOTs were also asked to identify roadways within their jurisdiction with posted speed limits less than 25-mph. None of the surveys received indicated roadways with this posted speed limit.

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To perform Task 2, Comparing speed limit criteria for New Jersey with other state DOTs, federal DOT and foreign countries, the research team has reviewed to primary documents including the Institute of Transportation Engineers (ITE)"Survey of Speed Zoning Practices" and the Transportation Research Board's Special Report 254, "Managing Speed: Review of Current Practice for Setting and Enforcing Speed Limits". These documents provide some of the latest survey results on speed setting practices. A Technical Memorandum summarizing the findings of this review will be provided to the research panel.

2. Proposed activities for next quarter by task:

During the next quarter, the research team will start to conduct Tasks 4 and 5. In particular, the team will use logistical regression techniques to examine the relationship between pedestrian injury severities with various factors including vehicle travel speeds and posted speed limits.

In addition, the research team will make follow-up calls to county DOTs not responding to the initial survey on their speed setting practice. The survey will also be administered to select municipalities. The research team hopes to identify a number of roadways with speed limits less than 25-mph. The geometric and volume conditions, as well as, the type of trips made on this roadway will be identified. A Technical Memorandum describing these attributes will be prepared and submitted during the next quarter.

3. List of deliverables provided in this quarter by task (product date):

None

4. Progress on implementation and training activities:

None

5. Problems/proposed solutions:

None

6. Budget summary:

Total Project Budget (# Years)	1 Year	\$172,641.00
Total Project Expenditure to date		\$14,340.00
% of Total Project Budget Expended		8.31%
Task Order Number/ Study Number	1 Year	NCTIP-043
Current Task Order Budget (# of Years)		\$122,347.00
Actual Expenditure to Date Against Current Task Order		\$14,340.00
% of Current Task Order Budget Expended		11.72%

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Project Title:	Corrugated Steel Culvert Pipe Deterioration		
RFP Number: 2002 – 02	NJDOT Research Project Manager: Mr. Robert Sasor		
Task Order Number/Study Number: TO-42	Principal Investigator: Meegoda, Jay N.		
Period Starting: 1/1/2003 - 12/31/2004 (Start-End Date of Study)	Period Ending: 04/04/2003		

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Phase I – Literature Search	9.5	53	53	5.035
Phase II – Task 1	6	0	0	0
Phase II – Task 2	6	0	0	0
Phase II – Task 3	6	0	0	0
Phase II – Task 4	6	0	0	0
Phase II – Task 5	6	0	0	0
Phase II – Task 6	9.5	0	0	0
Phase II – Task 7	6	0	0	0
Phase II – Task 8	15.0	0	0	0
Phase II – Task 9	15.0	0	0	0
Final Report	15.0	0	0	0
TOTAL	100 %			5.0 %

1. Progress this quarter by task:

APPROXIMATELY 5%

2. Proposed activities for next quarter by task:

Phase II Task 1 - Contact other state DOT's, making sure to include the Northeast states, to find out their experience with using CSCP.

Phase II Task 2 - Study methods for inventorying, inspecting, and cleaning CSCP used by other states. Determine optimum inspection and cleaning schedules and the best techniques and equipment to use.

Phase II Task 3 - Study means of assessing the condition of CSCP, estimating pipe deterioration rates, and predicting service life for pipes in different parts of the state and with different uses.

Phase II Task 6 - Study methods of inspection and maintenance record keeping and data storage used by other states. Examine data entry forms. Consider the benefits of storing CSCP pipe data in a centralized database, so that it could be easily accessed statewide to facilitate decision-making.

Phase II Task 6 - Determine the conditions for which CSCP should be used in new construction.

3. List of deliverables provided in this quarter by task (product date):

None

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4. Progress on implementation and training activities:

None

5. Problems/proposed solutions:

None

6. Budget summary:

Total Project Budget (# Years)	2 Year	\$282,766.00
Total Project Expenditure to date		\$8,000.00
% of Total Project Budget Expended		2.83%
Task Order Number/ Study Number	1 Year	TO-42
Current Task Order Budget (# of Years)		\$91,863.00
Actual Expenditure to Date Against Current Task Order		\$8,000.00
% of Current Task Order Budget Expended		8.71%

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Project Title:	Alternate Performance Measures for Evaluating Congestion		
RFP Number: 2001-20	NJDOT Research Project Manager: Nancy Ciaruffoli		
Task Order Number/Study Number: NCTIP-41	Pincipal Investigator: Rowinski, Jakub P		
Period Starting: 01/01/2002 - 03/31/2003 (Start-End Date of Study)	Period Ending: 04/04/2003		

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Task 1.1 Literature Search	8	0	100	8
Task 1.2 Literature Search Presentation	8	0	100	8
Task 2.1 Current Congestion Data	8	0	20	2
Task 2.2 Existing Performance Data	8	0	20	2
Task 2.3 Existing Congestion Baseline	16	15	70	11.2
Task 2.4 Labor and Industry Data	8	10	100	8
Task 2.5 Determine Costs of Congestion	16	20	40	6.4
Task 2.6 Study Program Effectiveness	12	0	0	0
Task 2.7 Quarterly Progress and Final Report	8	0	50	4
Task 3.1 Demonstration/Initial Training	4	0	0	0
Task 3.2 Follow-up Training Session	4	0	0	0
Final Report				
TOTAL	100 %			49.6 %

1. Progress this quarter by task:

Phase 2 – Research approach

Task 2.3 Determine existing congestion level baseline with feedback from focus groups

The web based survey has been finalized and is ready for distribution. The distribution will be done with the help of the New Jersey Alliance for Action as well as the New Jersey Department of Transportation and the New Jersey Institute of Technology.

Task 2.4 Gather labor and industry data to include employment and inflation, income, population costs/percentages.

Additional data was collected this quarter.

Task 2.5 Develop a program that will determine the costs of congestion.

Preliminary work began on this task to see how the results of the web based

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survey will be incorporated into the program.

2. Proposed activities for next quarter by task:

Phase 2 – Research approach

Task 2.3: Determine an existing congestion level baseline with feedback from focus groups

Task 2.5: Develop a program that will determine the costs of congestion

Task 2.7: Prepare final report

Phase III - Implementation and training

3. List of deliverables provided in this quarter by task (product date):

None

4. Progress on implementation and training activities:

None

5. Problems/proposed solutions:

None

6. Budget summary:

Total Project Budget (# Years)	1 Year	\$170,509.00
Total Project Expenditure to date		\$85,250.00
% of Total Project Budget Expended		50.00%
Task Order Number/ Study Number	1 Year	NCTIP-41
Current Task Order Budget (# of Years)		\$0.00
Actual Expenditure to Date Against Current Task Order		\$0.00
% of Current Task Order Budget Expended		0.00%

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Project Title:	Improvement of Continuity Connections Over Fixed Piers		
RFP Number: 2000-23	NJDOT Research Project Manager: Tony Chmeil		
Task Order Number/Study Number: TO-27	Pincipal Investigator: Saadeghvaziri, M. A.		
Period Starting: 1/1/2001 - 12/31/2003 (Start-End Date of Study)	Period Ending: 04/04/2003		

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Literature review	4	0	100	4
FEA work	21	9.5	95.2	19.992
Instrumentation/In-field measurements	21	0	100	21
Comparison/FEA	14	21.5	85.7	11.998
Recommendations for changes to existing design	9	0	100	9
Interim report	2	0	100	2
New connection	16	25	62.5	10
Laboratory tests	5	40	40	2
Specs.	5	0	0	0
Final report	3	0	0	0
Final Report				
TOTAL	100 %			80.0 %

1. Progress this quarter by task:

Laboratory test plan developed and revised per NJDOT comments during last quarterly meeting.

First specimen tested.

2. Proposed activities for next quarter by task:

Built and test additional specimens.

Continue analytical work.

3. List of deliverables provided in this quarter by task (product date):

4. Progress on implementation and training activities:

5. Problems/proposed solutions:

6. Budget summary:

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Total Project Budget (# Years)	3 Year	\$226,319.00
Total Project Expenditure to date		\$107,696.00
% of Total Project Budget Expended		47.59%
Task Order Number/ Study Number	2 Year	TO-27
Current Task Order Budget (# of Years)		\$152,376.00
Actual Expenditure to Date Against Current Task Order		\$107,696.00
% of Current Task Order Budget Expended		70.68%

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Project Title:	Development of a Simulation/Assignment Model for an ITS Priority Corridor in New Jersey		
RFP Number: 1999-27	NJDOT Research Project Manager: Karl Brodtmat, NJDOT		
Task Order Number/Study Number: NCTIP-32	Pincipal Investigator: Chien, Steven I-Jy		
Period Starting: 03/01/2001 - 05/31/2003 (Start-End Date of Study)	Period Ending: 04/04/2003		

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Corridor Identification and Modeling Needs	9	0	100	9
Review of Existing Data Sources and Identification of Additional Data Needs	7	0	100	7
Modification of VISTA Simulation and Routing Models	12	0	100	11.4
Data Conversion and Input into the VISTA DB	6	0	100	6
Validation and Testing of the VISTA Simulation and Routing Models; Performance	6	0	100	6
Development of Two Tutorials and Training of the NJDOT Engineers in the VISTA environment	4	0	100	4
First Year Report with Documentation of the Simulation and Routing Models	4	0	100	4
Improvements to the Simulation and Routing Models based on the outcome of Task 6	16	0	100	16
Development of a Cost/Benefit Analysis Module for the NJDOT ITS Priority Corridor	16	20	30	4.8
Additional Data Needs and Conversion to the VISTA DB	4	10	90	3.6
Validation and Testing of the Cost/Benefit Analysis Module	6	50	60	3.6
Final Report, Enhancement of the Tutorial and Training	5	20	70	3.5
Final Report	5	50	60	3
TOTAL	100 %			81.9 %

1. Progress this quarter by task:

1. A two-day training workshop on the implementation of VISTA has been delivered. A comprehensive training material on the theory and functionality of VISTA has been delivered; December 2002.
2. A new DTA model has been calibrated that included several case studies: work zone study, weather condition study, air pollution study, bus preemption study, and VMS study.
3. A preliminary cost/benefit analysis module has been initiated.
4. A set of park and ride facilities close to the I-80 corridor have been

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incorporated into the VISTA system. A set of bus routes and train routes associated with the Park and Rides program have also been incorporated.

5. Work started in the implementation of VISTA to model a set of New Jersey Transit bus routes in Newark, NJ.

2. Proposed activities for next quarter by task:

1. Prepare the final workshop for NJDOT engineers and planners.
2. Complete the modules for cost/benefit analysis.
3. Incorporate the VISTA system to model New Jersey Transit bus routes in downtown Newark, NJ. This is in conjunction with the project sponsored by the Great Cities University Consortium (CCNY-CUNY), the TIDE center (NJIT).
4. Incorporate a sample of Park and Ride facilities into VISTA and emulate the bus and train routes that serve these facilities. This is in conjunction with the Park and Rides project of NJDOT.
5. Complete the final report.

3. List of deliverables provided in this quarter by task (product date):

4. Progress on implementation and training activities:

Prepare materials for the final workshop of this project at NJDOT
Developing Cost/Benefit Analysis Module

5. Problems/proposed solutions:

The date for the workshop is not determined. We are waiting for the response from Mr. Patrick Vannozzi, NJDOT.

6. Budget summary:

Total Project Budget (# Years)	2 Year	\$375,100.00
Total Project Expenditure to date		\$325,200.00
% of Total Project Budget Expended		86.70%
Task Order Number/ Study Number	2 Year	NCTIP-32
Current Task Order Budget (# of Years)		\$375,100.00
Actual Expenditure to Date Against Current Task Order		\$325,200.00
% of Current Task Order Budget Expended		86.70%

Quarterly Progress Report

Project Title:	Survey of Transit/Freight Rail Interactions		
RFP Number: 2002-19	NJDOT Research Project Manager: NJ DOT		
Task Order Number/Study Number: NCTIP-040	Pincipal Investigator: Liu, Rachel		
Period Starting: January 1, 2002 - December 2002 (Start-End Date of Study)	Period Ending: 04/04/2003		

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Literature Review	10	75	75	7.5
Survey of Peer Transit Agencies	40	20	20	8
Final Report				
TOTAL	100 %			15.5 %

1. Progress this quarter by task:

To date, we have conducted literature and are in the process of compiling the technical memorandum documenting the literature gathered and topics that pertinent to this research project.

2. Proposed activities for next quarter by task:

Survey transit systems composed of various commuter rail, light rail, and heavy rail systems around the United States. One of the concentrated surveys will be conducted at the APTA commuter rail conference

3. List of deliverables provided in this quarter by task (product date):

Technical Memorandum of Literature Review

4. Progress on implementation and training activities:

IN progress

5. Problems/proposed solutions:

6. Budget summary:

Total Project Budget (# Years)	1 Year	\$129,313.00
Total Project Expenditure to date		\$19,638.00
% of Total Project Budget Expended		15.19%
Task Order Number/ Study Number	1 Year	NCTIP-040
Current Task Order Budget (# of Years)		\$129,313.00
Actual Expenditure to Date Against Current Task Order		\$19,638.00
% of Current Task Order Budget Expended		15.19%

Quarterly Progress Report

Project Title:	Survey of Driver Perceptions of Railroad and Light Rail Warning Devices/Grade Crossings		
RFP Number: 2001-33	NJDOT Research Project Manager: Karl Brodman		
Task Order Number/Study Number: NCTIP-33	Pincipal Investigator: Jeng, One-Jang		
Period Starting: 1/1/2002 - 12/31/2003 (Start-End Date of Study)	Period Ending: 04/04/2003		

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Phase I-Literature Search: Conduct a literature search of the current state of the practice	10	100	100	10
Phase II-Research Approach: Task 1: Determine the various types of railroad and light rail highway grade crossings in New Jersey	5	100	100	5
Task 2: Conduct a survey of other states for information	10	100	100	10
Task 3a: Catalog the individual active and passive railroad/light rail crossing devices in New Jersey	5	15	90	4.5
Task 3b: Arrange the devices in groups that would be found at typical crossings as found in the classification system in Task 1	5	15	90	4.5
Task 4: Setup of laboratory experimental tasks, video and still image editing, programming for recording subject responses and data processing	15	30	80	12
Conduct a pilot study for the experiments; finalize experiment procedures	10	20	50	5
Conduct formal laboratory experiments	10	5	5	0.5
Perform data processing and statistical analysis for the laboratory experiments	10	0	0	0
Task 5: Technical Memorandum on the driver manual chapters, exam questions and answers	10	0	0	0
Task 6: Prepare and deliver the final report	10	0	0	0
Final Report				
TOTAL	100 %			51.5 %

1. Progress this quarter by task:

A research assistant of the team has updated programming requirement for the laboratory simulation experiment. The experiment consists of viewing snapshots of road and railroad conditions with traffic control devices superimposed at various distance from the railroad crossings. A joystick is used to simulate speed control. The joystick manipulation provides acceleration and breaking simulation of vehicle maneuvering. A real time speedometer is provided to the subject. A symbol is now provided to indicate the position of a vehicle which moves according to its speed. The other task for the subjects is to view

Quarterly Progress Report

short video clips and ask them to report whether there is any indications of railroad crossings, what are they, and what will their responses be. The research team is finalizing the experiment preparation and had tested among team members to train the experimenter to conduct the experiment. Dr. Srini worked on completing drivers manual search and comparisons among different states.

2. Proposed activities for next quarter by task:

The plan for next quarter includes conducting the laboratory experiment and design of the railroad crossing section for the New Jersey drivers manuals. Dr. Srini will draft the section. The information needed in the section will be fed from his comparison of different states, literature findings, and experience learned from the laboratory simulation experiment.

3. List of deliverables provided in this quarter by task (product date):

4. Progress on implementation and training activities:

5. Problems/proposed solutions:

6. Budget summary:

Total Project Budget (# Years)	2 Year	\$207,454.00
Total Project Expenditure to date		\$50,405.00
% of Total Project Budget Expended		24.30%
Task Order Number/ Study Number	1 Year	NCTIP-33
Current Task Order Budget (# of Years)		\$78,211.00
Actual Expenditure to Date Against Current Task Order		\$0.00
% of Current Task Order Budget Expended		0.00%

Quarterly Progress Report

Project Title:	Fatigue Management, Rail Operations Personnel		
RFP Number: 36	NJDOT Research Project Manager: Karl Brodtman, NJDOT		
Task Order Number/Study Number: 36	Pincipal Investigator: Jeng, One-Jang		
Period Starting: 1/1/2002 - 8/31/2003 (Start-End Date of Study)	Period Ending: 04/04/2003		

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Phase I ;V Literature Search	5	0	100	5
Phase II ;V Research Approach Task 1 ;V Detailed Literature Search	10	0	100	10
Task 2 ;V Presentation of Literature Findings	5	0	100	5
Task 3 ;V Determine Existing HOS guidelines	25	30	100	25
Task 4 Prepare HOS model for Crew Schedule Assessment and Design Tool	30	30	40	12
Task 5 ;V Prepare a Request for Proposal	15	0	0	0
Task 6 ;V Reporting	10	10	22	2.2
Final Report				
TOTAL	100 %			59.2 %

1. Progress this quarter by task:

Task 1. The Literature Review was completed this quarter. Task 2. The Research Team presented the results to NJTransit senior management personnel at a meeting held January 31, 2003. The literature review document will be submitted at the next quarterly meeting. Task 3. Several activities under Task 3 were completed this were completed this quarter. Schedule assignments for the bid period beginning 27th October were provided to CTI in the previous quarter. These schedules have been converted into a format acceptable for the software and a detailed evaluation has been conducted, included assignment of "fatigue scores" for the various work assignments. The results were presented to NJTransit senior management personnel at the January 31 meeting. In addition, a draft survey has been developed and was distributed to both NJTranist personnel and BLE union officials. We have received their comments and will be revising the survey accordingly. We are also scheduling a meeting with the UTU, which represents primarily NJTransit conductors, to gain further input and feedback.

2. Proposed activities for next quarter by task:

Finalize and administer survey and summarize results. Based on this information, the research team can commence subsequent tasks.

3. List of deliverables provided in this quarter by task (product date):

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4. Progress on implementation and training activities:

5. Problems/proposed solutions:

6. Budget summary:

Total Project Budget (# Years)	2 Year	\$221,017.00
Total Project Expenditure to date		\$125,462.00
% of Total Project Budget Expended		56.77%
Task Order Number/ Study Number	1 Year	36
Current Task Order Budget (# of Years)		\$133,469.00
Actual Expenditure to Date Against Current Task Order		\$125,462.00
% of Current Task Order Budget Expended		94.00%

Quarterly Progress Report

Project Title:	Use of Neural/Dynamic Alg. to Predict Bus Travel Times under Congested Conditions		
RFP Number: 2001-26	NJDOT Research Project Manager: Edward Kondrath, NJDOT		
Task Order Number/Study Number: 44	Pincipal Investigator: Chien, Steven I-Jy		
Period Starting: 1/1/2002 - 5/31/2003 (Start-End Date of Study)	Period Ending: 04/04/2003		

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Literature Review	12.5	0	100	12.5
Identify and Visit the Study Site/Route	10	0	100	10
Collect, Analyze and Process the Data Collected from NJ Transit	15	20	100	15
Select Software for Developing the Prediction Models	10	0	100	10
Develop Neural/Dynamic (ND) Prediction Models	15	0	100	15
Refine the Developed ND Model	12.5	65	70	8.75
Test and Evaluate the Developed Model	12.5	55	60	7.5
Final Report and Presentation	12.5	35	50	6.25
Final Report				
TOTAL	100 %			85.0 %

1. Progress this quarter by task:

1. One whole year (2002) APC data was completely collected, screened, and processed.
2. Problems and mistakes existing in the raw data have been identified and removed. Computer programs have been written for checking errors, removing the errors, and processing new data. The data processing time can be significantly reduced.
3. More variables have been generated in data processing, which will help training the ANN model.
4. The Kalman Filtering algorithm has been developed and applied into dynamic prediction of bus travel/arrival times.
5. The fine-tuning of the developed ANN model is being done and better prediction performance is expected.
6. The interim draft report is prepared for review.
7. The final report is under preparation.

2. Proposed activities for next quarter by task:

1. Finish fine-tuning the developed prediction model.
2. System evaluation and results analysis.
3. Finish the final report.

Quarterly Progress Report

3. List of deliverables provided in this quarter by task (product date):

Intrim project report.

Presentation of the project progress.

4. Progress on implementation and training activities:

5. Problems/proposed solutions:

6. Budget summary:

Total Project Budget (# Years)	1 Year	\$145,047.00
Total Project Expenditure to date		\$123,000.00
% of Total Project Budget Expended		84.80%
Task Order Number/ Study Number	1 Year	44
Current Task Order Budget (# of Years)		\$145,047.00
Actual Expenditure to Date Against Current Task Order		\$123,000.00
% of Current Task Order Budget Expended		84.80%

Quarterly Progress Report

Project Title:	Mobility Information Need for Limited English Proficiency Travelers		
RFP Number: 2002-20	NJDOT Research Project Manager: New Jersey DOT		
Task Order Number/Study Number: NCTIP-039	Pincipal Investigator: Liu, Rachel		
Period Starting: January 1, 2002 - December 2002 (Start-End Date of Study)	Period Ending: 04/04/2003		

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Literature Review	10	75	75	7.5
Identify Source of Information on LEP Groups	5	40	40	2
Identify and Classify the NJLEP population	5	20	20	1
Final Report				
TOTAL	100 %			10.5 %

1. Progress this quarter by task:

To date, we have conducted literature review and are in the process of composing the literature review Technical Memorandum.

We also searched the data sources of LEP population, and contacted various groups for future survey

2. Proposed activities for next quarter by task:

Conduct surveys of community groups in NJ and analyze the mobility information needs of such groups

3. List of deliverables provided in this quarter by task (product date):

Technical Memorandum on Literature Review

4. Progress on implementation and training activities:

In Progress

5. Problems/proposed solutions:

6. Budget summary:

Total Project Budget (# Years)	2 Year	\$230,499.00
Total Project Expenditure to date		\$15,768.00
% of Total Project Budget Expended		6.84%
Task Order Number/ Study Number	1 Year	NCTIP-039
Current Task Order Budget (# of Years)		\$161,377.00
Actual Expenditure to Date Against Current Task Order		\$15,768.00
% of Current Task Order Budget Expended		9.77%

Quarterly Progress Report

Project Title:	Improving Public Transit Schedules, Timetables People Can Actually Read		
RFP Number: 22-2002	NJDOT Research Project Manager: Edward Kondrath		
Task Order Number/Study Number: 38	Pincipal Investigator: Fallat, George Alexander		
Period Starting: Jan 1, 2003 - Dec 31, 2003 (Start-End Date of Study)	Period Ending: 04/04/2003		

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Task 1, Phase 1 – Literature Search	10	75	75	7.5
Task 1, Phase 2. Presentation of Literature Review Findings	5	0	0	0
Task 2: Develop a Proposed Methodology	10	0	0	0
Task 3: Apply New Wayfinding Methods	10	0	0	0
Task 4: Administer Survey	15	0	0	0
Task 5 – Compile Survey Results	10	0	0	0
Task 6 – Prepare Guidelines	20	0	0	0
Task 7 - Reporting	20	0	0	0
Final Report				
TOTAL	100 %			7.5 %

1. Progress this quarter by task:

A thorough literature review has been conducted for this project. The research team has reviewed more than thirty research papers which cover typography of printed text, orientation of text, organization of numerical information in tabular forms, information highlighting, formats of time presentation, consideration of presenting quality information in tabular forms including legibility and readability. A draft of the literature review report has been completed and is under review by the research team. A literature review summary will be presented in the April quarterly progress meeting. The final literature review report will also be submitted to NJDOT and NJTransit for review and comments prior to the meeting.

2. Proposed activities for next quarter by task:

Prepare and administer survey.
Prepare draft prototype maps.

3. List of deliverables provided in this quarter by task (product date):

Task 1. Literature Search. To be provided at next quarterly report meeting.

4. Progress on implementation and training activities:

None to date

5. Problems/proposed solutions:

Quarterly Progress Report

6. Budget summary:

Total Project Budget (# Years)	1 Year	\$157,239.00
Total Project Expenditure to date		\$12,579.00
% of Total Project Budget Expended		8.00%
Task Order Number/ Study Number	1 Year	38
Current Task Order Budget (# of Years)		\$117,662.00
Actual Expenditure to Date Against Current Task Order		\$9,413.00
% of Current Task Order Budget Expended		8.00%

Quarterly Progress Report

Project Title:	Pedestrian Safety and Mobility Aids for Crossings and Access to Bus Stops		
RFP Number: 42	NJDOT Research Project Manager: Nancy Ciaruffoli, NJDOT		
Task Order Number/Study Number: NCTIP-42	Principal Investigator: Jeng, One-Jang		
Period Starting: 1/1/2002 - 06/30/2003 (Start-End Date of Study)	Period Ending: 04/04/2003		

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Task 1.1 Literature Search	10	100	100	10
Task 2.1 iV Develop Initial Criteria for Site Selection	10	0	100	10
Task 2.2 - Select Potential Candidate Sites	5	0	100	5
Task 2.3 - Perform Initial Evaluation	10	25	100	10
Tasks 2.4 - Recommend Final Locations	10	90	100	10
Task 2.5 Develop Innovative Solutions Strategies and Aids	20	20	75	15
Task 2.6 iV Perform Detailed Evaluation	20	30	70	14
Task 2.7 - Develop Implementation Plan	10	20	20	2
Task 2.8 Final Report	5	0	0	0
Final Report				
TOTAL	100 %			76.0 %

1. Progress this quarter by task:

The project team conducted a review of pedestrian related crashes along US Route 9 in Middlesex and Monmouth Counties. Fairway Avenue in Old Bridge Township was identified as a problematic location and based on our discussions at our team meeting in January, we decided to add this location to our study. However, only the driver simulation aspect of the study would be performed. The following activities were also undertaken in this quarter:

1. Prepared and distributed a draft customer survey.
2. Conducted field investigations and videotaped pedestrian activity at Texas Road and Strickland Road locations to identify behaviors under inclement weather conditions.
3. Conducted video recordings as part of the first phase of the driver perspective survey.
4. Finalize the literature review. This will be submitted at the next quarterly report meeting in April.

2. Proposed activities for next quarter by task:

Finalize and administer the customer site survey. Prepare and conduct the driver perspective survey. Prepare the draft and final report.

3. List of deliverables provided in this quarter by task (product date):

4. Progress on implementation and training activities:

Quarterly Progress Report

5. Problems/proposed solutions:

6. Budget summary:

Total Project Budget (# Years)	1 Year	\$133,469.00
Total Project Expenditure to date		\$87,524.00
% of Total Project Budget Expended		65.58%
Task Order Number/ Study Number	1 Year	NCTIP-42
Current Task Order Budget (# of Years)		\$70,825.00
Actual Expenditure to Date Against Current Task Order		\$45,417.00
% of Current Task Order Budget Expended		64.13%

Quarterly Progress Report

Project Title:	Assess Impacts and Potential Benefits of Traffic Signal Priority for Buses		
RFP Number: 2000-28	NJDOT Research Project Manager: Nick Vitillo		
Task Order Number/Study Number: NCTIP-45	Pincipal Investigator: Daniel, Janice R.		
Period Starting: 1/02/002 - 06/30/02 (Start-End Date of Study)	Period Ending: 04/04/2003		

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Phase I. Assemble, Review & Synthesize Literature	10%	35%	100%	10%
Task 1. Survey Existing Systems Using Priority	15%	50%	100	15%
Task 2. Identifying Promising Locations and Develop Plans	25%	50%	100	25%
Task 3. Assessment of Operational Plans	25%	10%	100	25%
Task 4. Prepare Reports	25%	30%	70	17.5%
Final Report				
TOTAL	100 %			92.5 %

1. Progress this quarter by task:

During this past quarter, the research team has been involved in completing the Draft Final Report. The literature review was completed by Dr. Srinivasan. Ed Lieberman has completed the simulation and documented the assumptions and modeling of Broad Street. Dr. Daniel has developed and documented operational test plans for use in implementing signal priority. The Draft Final Report will be provided to the Research Panel at the next quarterly meeting.

2. Proposed activities for next quarter by task:

During the next quarter the researchers will respond to comments from the research panel. The research team will also coordinate with NJ Transit to present the simulation model to NJ Transit.

3. List of deliverables provided in this quarter by task (product date):

None

4. Progress on implementation and training activities:

None

5. Problems/proposed solutions:

None

6. Budget summary:

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Total Project Budget (# Years)	1 Year	\$281,008.00
Total Project Expenditure to date		\$46,931.00
% of Total Project Budget Expended		16.70%
Task Order Number/ Study Number	1 Year	NCTIP-45
Current Task Order Budget (# of Years)		\$138,109.00
Actual Expenditure to Date Against Current Task Order		\$46,931.00
% of Current Task Order Budget Expended		33.98%

Quarterly Progress Report

Project Title:	Effectiveness of Bus Nubs for Bus Stops		
RFP Number: 2000-25	NJDOT Research Project Manager: Vincent Nichnadowicz		
Task Order Number/Study Number: NCTIP-43	Pincipal Investigator: Daniel, Janice R.		
Period Starting: 1/02/02 - 12/31/03 (Start-End Date of Study)	Period Ending: 04/04/2003		

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Task A. Perform a literature review.	5%	0	100%	5%
Task 1. Identify a limited number of urban bus stop locations that could be considered for bus nub installation.	10%	0	100	10%
Task 2. Develop from the literature or elsewhere a specification document that provides measurements and guidance for proposed test bus nubs to be built.	10%	0	75	7.5%
Task 3. Prepare plans in sufficient detail for the agreed upon test nubs to allow for contractor installation.	5%	0	70	3.5%
Task 4. Develop a methodology to evaluate effectiveness of the alternate	5%	0	90	4.5%
Task 5. Conduct a before data collection	10%	40	42	4.2%
Task 6. Install bus nubs.	20%	0%	0%	0%
Task 7. Conduct an after data collection.	10%	0%	0%	0%
Task 8. Analyze the data.	10%	5	5	0.5
Task 9. With the assistance of NJDOT and NJ Transit, develop for general publication a document explaining the rules and guidelines for the use of	5%	0%	0%	0%
Task 10. Prepare a project schedule to submit a quarterly, interim and final report that document the entire research effort.	10%	0	20%	2%
Final Report				
TOTAL	100 %			37.0 %

1. Progress this quarter by task:

During the past quarter the research team has completed Technical Memorandums No. 1, 2 and 3. Technical Memorandum 1, Potential Sites for Installing Bus Nubs, describes the initial criteria used in selection of bus nub locations. Technical Memorandum No. 2, Guidelines on the Design of Bus Nubs, describes guidelines on the design of bus nubs. Technical Memorandum No. 3, Data Collection Methodology, documents the methodology to be used in collecting data for assessing the effectiveness of the bus nub. Data collection for the bus nubs on Cedar Lane is scheduled to be conducted during the week of March 17th

Quarterly Progress Report

and 21st, which is Spring break at NJIT. The data collection has been delayed due primarily to weather conditions. Visits to Cedar Lane and telephone conversations with the City of Teaneck indicates that the bus nubs will not be constructed until June. The research team has also been involved in developing guidelines for identifying locations where bus nubs would be appropriate. The guidelines attempt to quantify the expected delays to vehicular traffic and the benefits to buses as a result of the bus nub.

2. Proposed activities for next quarter by task:

During the next quarter, the research team anticipates performing some additional before counts on Cedar Lane. The research team hopes to perform the after data collection on Cedar Lane. These counts, however, are subject to the bus nubs being installed prior to the end of the next quarter.

3. List of deliverables provided in this quarter by task (product date):

None

4. Progress on implementation and training activities:

None

5. Problems/proposed solutions:

The research team has been told to only consider locations where the bus nub can be constructed with no consideration for drainage. The research team was encouraged by the original Project Manager to contact municipalities receiving Transportation Enhancement grants to determine their willingness to consider including a bus nub in their streetscape projects. The research team has been told by the current Project Manager that this approach will not work. This is based on his discussions with others. It is unclear whether the research team should proceed with contacting municipalities receiving local aid to determine their interests and/or willingness to consider bus nubs in their streetscape projects.

6. Budget summary:

Total Project Budget (# Years)	2 Year	\$118,785.00
Total Project Expenditure to date		\$54,984.00
% of Total Project Budget Expended		46.29%
Task Order Number/ Study Number	2 Year	NCTIP-43
Current Task Order Budget (# of Years)		\$62,906.00
Actual Expenditure to Date Against Current Task Order		\$54,984.00
% of Current Task Order Budget Expended		87.41%

Quarterly Progress Report

Project Title:	Evaluation of design ideas for prevention of vehicles entrapment on railroad tracks due to improper left turns		
RFP Number: 31	NJDOT Research Project Manager: Karl Brodtman, NJDOT		
Task Order Number/Study Number: NCTIP-31	Principal Investigator: Jeng, One-Jang		
Period Starting: 4/1/2000 - 12/31/2002 (Start-End Date of Study)	Period Ending: 04/04/2003		

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Review and analysis of literature and accident reports	10	100	100	10
Setup of laboratory equipment	5	100	100	5
Conduct pilot experiments	5	100	100	5
Conduct formal experiments	20	100	100	20
Perform data processing and statistical analysis	10	100	100	10
Selection and modification of design ideas	10	100	100	10
Setup of design prototypes for field studies	10	100	100	10
Conduct pilot experiments for field studies	10	100	100	10
Conduct formal experiments for field studies	10	10	60	6
Perform data processing and statistical analysis	10	10	60	6
Final Report				
TOTAL	100 %			92.0 %

1. Progress this quarter by task:

As reported during the previously quarterly progress report meeting, the railroad crossing treatments for the field study was finished by a NJTransit contractor in mid January. Since then the temperature has been below the minimal temperature required for the two video camera to function properly (above 40 degrees) until the second week of March. There was only one video recording (out of six) as of the progress report date. It is anticipated that, since the temperature starts to rise, the video recordings can be completed within three weeks. The only tasks left for this project are statistical analysis of before and after comparison, and the project final report. The extended deadline for this project will be July 31.

2. Proposed activities for next quarter by task:

Next quarter will be the final quarter for this project. The activities for next quarter will include completion of the field video recording, statistical analysis of comparing before and after treatments, and the final project report.

3. List of deliverables provided in this quarter by task (product date):

4. Progress on implementation and training activities:

Quarterly Progress Report

5. Problems/proposed solutions:

6. Budget summary:

Total Project Budget (# Years)	3 Year	\$146,884.00
Total Project Expenditure to date		\$146,078.00
% of Total Project Budget Expended		99.45%
Task Order Number/ Study Number	3 Year	NCTIP-31
Current Task Order Budget (# of Years)		\$56,212.00
Actual Expenditure to Date Against Current Task Order		\$56,119.00
% of Current Task Order Budget Expended		99.83%

Quarterly Progress Report

Project Title:	Shoulder Rumble Strips and Bicyclists		
RFP Number: NCTIP-38	NJDOT Research Project Manager: Karl Brodtman, NJDOT		
Task Order Number/Study Number: NCTIP-38	Pincipal Investigator: Daniel, Janice R.		
Period Starting: 1/1/2001 - 3/31/2003 (Start-End Date of Study)	Period Ending: 04/04/2003		

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Perform a literature review.	65%	0%	100%	65%
Survey the SRS policies and practices of state DOTs.	20%	0%	100%	20%
Prepare problem statement.	5%	5%	100%	5%
Prepare quarterly progress and final report.	10%	20%	100%	10%
Final Report				
TOTAL	100 %			100.0 %

1. Progress this quarter by task:

The Conclusion chapter of the Draft Final Report was updated to include conclusions and recommendations on implementation of shoulder rumble strips in New Jersey.

2. Proposed activities for next quarter by task:

This project has been completed. The research team will complete the Final Report after the research panel has reviewed the additions to the Conclusions of the Draft Final Report.

3. List of deliverables provided in this quarter by task (product date):

Draft Final Report

4. Progress on implementation and training activities:

5. Problems/proposed solutions:

6. Budget summary:

Total Project Budget (# Years)	2 Year	\$45,380.00
Total Project Expenditure to date		\$44,200.00
% of Total Project Budget Expended		97.40%
Task Order Number/ Study Number	2 Year	NCTIP-38
Current Task Order Budget (# of Years)		\$21,225.00
Actual Expenditure to Date Against Current Task Order		\$20,500.00
% of Current Task Order Budget Expended		96.58%